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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. National Stage Application of
Petteri PUTKIRANTA

U.S. Pat. App. Serial No.: **09/646,802**
Nat'l Stage entered: **September 22, 2000**
Internat'l Stage Appln. No.: **PCT/FI99/00227**
Internat'l Filing Date: **March 23, 1999**
Priority date: **March 23, 1998**
For: **Method And System For
Using Location Dependent Services
In A Cellular Radio System**

Examiner: Smith, S. B.
Group Art: 2681

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APPEAL BRIEF

SIR:

On May 12, 2004, appellant appealed from the final rejection of Claims 1-12. This is appellant's brief in accordance with 37 C.F.R. §1.192. This Appeal Brief is being submitted in triplicate with a check for \$330 in filing fee, as well as a check for \$110 for a one-month extension of time. If there is no or insufficient payment enclosed, those and any additional charges may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

The sections below are numbered in accordance with §1.192(c).

(1) Real Party in Interest:

The real party of interest herein is Nokia Networks OY, P.O. Box 300, Nokia Group, Finland, FIN-00045.

(2) Related Appeals and Interferences:

There are no related appeals and/or interferences of which appellant is aware.

(3) Status of Claims:

The present application was filed under 35 U.S.C. §371 on September 22, 2000 as the U.S. national stage application of international stage PCT application PCT/FI99/00227, filed on March 23, 1999, and recited Claims 1-12, of which Claims 1, 5, and 7 were in independent form. The 35 U.S.C. §371 filing requirements were satisfied on October 17, 2000. On June 6, 2003, an Office Action rejecting all claims under 35 U.S.C. §103(a) over US 5,950,125 to *Buhrmann et al.* (hereinafter *Buhrmann*) issued. In a response dated September 8, 2003, applicant argued that *Buhrmann* did not render the claimed invention obvious. In addition, all of the claims were amended to be in accordance with U.S. patent practice and to clarify certain items in English (i.e., no amendment was in response to the §103(a) rejection). No further amendments of the claims were made after the September 8, 2003 Amendment.

A Final Rejection issued on December 5, 2003, the Examiner changed the §103(a) rejection from citing *Buhrmann* alone to citing *Buhrmann* in view of US 6,477,362 to *Raith et al.* (hereinafter *Raith*). In a reply after final rejection dated March 2, 2004, applicant argued that the Examiner had not made a *prima facie* case of obviousness under §103 because the Examiner did not provide a suggestion or motivation for making the combination of *Buhrmann* and *Raith*. An Advisory Action issued on April 8, 2004, in which the Examiner wrote "[i]n response to the applicants arguments against the references, one cannot show nonobviousness by attacking the references individually where the rejections are based on the combination of references".

Claims 1-12 are pending, with Claims 1, 5, and 7 being in independent form. All claims stand rejected under §103 over the combination of *Buhrmann* and *Raith*.

(4) Status of Amendments:

There was no amendment filed subsequent to the final rejection.

(5) Summary of Invention:

The general concept of providing the user of a cellular radio communications system with a location-dependent service profile is known in the prior art. In such a system, a mobile station, such as a cell phone, may have different services depending on the picocell, microcell, cell, and/or cell sector with which it has a current communication link. As an example, in one prior art system

(disclosed in US 5,950,125 to *Buhrmann et al.*), a mobile telephone switching office (MTSO), e.g., the Mobile Services Switching Center (MSC), stores a plurality of "service profiles," where each service profile corresponds to either a specific cellular phone or a specific subscriber. The service profile indicates the features or services to which that phone or subscriber is entitled.

In such prior art systems, the MTSO must determine if any particular cell phone is in a localized service area in order to provide and/or maintain the location-dependent services.

By contrast, the present invention moves some of the maintenance and control tasks for location-dependent services out from the MTSO/MSC to the mobile stations in the field. According to the present invention, the mobile station recognizes whether it is in a defined "localized service area" (see, e.g., page 7, lines 16-18, referring to block 202 in FIG. 2) and sends that information directly to a "service server" which will activate or deactivate localized services based on that message (see, e.g., page 2, lines 13-17; page 4, lines 13-20).

To understand the present invention it is important to understand the definition of localized service area. As stated in the application (page 3, lines 11-19): "a localized service area may comprise a base station cell, several cells, a location (LA), a public land mobile network (PMLN), an area defined by coordinates, certain cell identifiers, or an area in which base stations send to mobile stations some other identifier." A localized service area is not geographic, but rather administrative, a "location" within the cellular network (e.g., a particular cell). Although a localized service area will cover a geographic area, it is not defined by a geographic area, but rather by the picocells, microcells, cells, cell sectors, etc. which comprise it (which may or may not be physically located near each other). In fact, a localized service area may be defined in chronological terms, i.e., it will exist at a particular time at a particular place (see *id.*)

Claim 1 of the present application recites a communication system with a service server which "[receives], from the mobile stations, mobile station generated messages describing the location of the mobile stations in relation to localized service areas" and a "means for changing the service selection offered to a mobile station .. in response to .. a message generated by said mobile station."

Claim 5 of the present application recites a cellular mobile station having "a memory means adapted so as to store the information required for recognizing a localized service area" where the mobile station is adapted "to send a notification of its arrival in the localized service area in response

to the recognition of the localized service area, said notification being intended as an impulse for changing the service selection offered to the mobile station.

Claim 7 of the present application recites a method for changing the service selection offered to a mobile station by "receiving from the mobile station a message indicating that the mobile station has detected that it is in the localized service area," generating information based on that received message, and "changing the service selection offered to said mobile station by the communication system."

(6) Issues:

First: Has the Examiner provided a sufficient motivation for combining *Buhrmann* and *Raith* in the §103(a) obviousness rejection?

Second: Even when impermissibly combined, does the combination of *Buhrmann* and *Raith* render the subject matter of any of the claims in the present application obvious under §103?

(7) Grouping of Claims:

Claims 1-12 are grouped together for both issues.

(8) Arguments:

First Issue: Has the Examiner provided a sufficient motivation for combining *Buhrmann* and *Raith* in the §103(a) obviousness rejection?

In response to the first Office Action (dated June 6, 2003), in which all the claims were rejected under 35 U.S.C. §103(a) over *Buhrmann*, applicant argued that *Buhrmann* did not render the claims obvious because *Buhrmann* neither teaches nor suggests a mobile station which determines its location in regards to localized service areas and communicates that information to a service server.

In the Final Office Action dated December 5, 2003, the Examiner alleged that *Buhrmann* teaches all the limitations of the invention recited in the pending claims, except for the limitation of a mobile terminal generating information about whether it's in a localized service area and

subsequently transmitting such information. The Examiner alleged that *Raith* discloses this missing limitation. However, the Examiner does not provide any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, for making the combination of *Buhrmann* and *Raith*.

In order to make a *prima facie* case of obviousness, a teaching, suggestion, or incentive to combine the references in order to teach the claimed invention, must be found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Geiger*, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987). However, the teaching or suggestion to make the claimed combination must be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Like the present invention, *Buhrmann* is directed to providing location-dependent services to mobile stations in a communication system. In fact, as discussed above, *Buhrmann* discloses a system in which location-specific handling of incoming calls takes place in response to the network determining (i.e., reading from a network-based location register) that the subscriber is either at localized service area "A" or "B". However, in *Buhrmann*, it is the network which plays the prominent role in determining which, if any, localized service area the mobile terminal is in.¹ For example, when *Buhrmann* describes how the network establishes a communication link between a certain terminal and a certain MTSO by determining whether the terminal is within a user zone (see col. 11, line 59, to col. 13, line 14), it is a processor within the MTSO that is responsible for determining the location of the terminal (see especially col. 12, lines 40-64).

Raith describes an alternate signalling system which is used when a mobile terminal is making an emergency call. Specifically, when it is recognized that an emergency call is being made, the *Raith* system uses the mobile identification number (MIN) of the mobile station instead of its International Mobile Subscriber Identifier (IMSI) or Temporary Mobile Subscriber Identifier (TMSI) (one of which is typically used) in the transmitted message, thereby ignoring typical access rules (Summary, in col. 3, lines 20-30, of *Raith*)². The Examiner cites a section in *Raith*'s

¹ As discussed above, the responsibility for generating the location information and subsequently communicating it to the service server is given to the mobile station in independent Claims 1, 5, and 7 of the present application.

² According to *Raith*, in the prior art, "adjunct systems" (i.e., "systems [for locating mobile terminals] which may be completely independent of the radiocommunication system or which may share various components (i.e., an antenna) with the radiocommunication system but which processes signals separately therefrom"; col. 1, lines 59-62, *Raith*) did

Background section which remarks that a mobile station could estimate its geographical location via a GPS receiver and then forward that information to an emergency service provider. This cited section (or any other section) in *Raith*, when combined with *Buhrmann*, fails to teach or suggest the invention claimed in the present application, as will be discussed in the next part of this Appeal.

There is no teaching, suggestion, motivation, or incentive, either implicit or explicit, to combine *Buhrmann* and *Raith*. *Buhrmann* is directed to providing location-dependent consumer services, such as discounted billing rates, which may change as a mobile terminal roams from one area to another (e.g., "...changing the service selection offered to a mobile station by the communications system in response to an indication of the arrival of the mobile station in said localized service area, ..."; Claim 1, lines 8-10), while *Raith* describes an alternate signalling system to be used when an emergency call is being made by a mobile terminal.

"When the incentive to combine the teachings is not readily apparent, it is the duty of the Examiner to explain why combination of the reference teachings is proper ... Absent such reasons or incentives, the teachings of the references are not combinable" (*Ex Parte Skinner*, 2 USPQ 2d 1788 (B.P.A.I. 1987)). The Examiner's explanation of the motivation to combine these two references is that "... it would have been obvious to one of ordinary skill at the time the invention was made to modify [*Buhrmann*] by specifically providing for mobile stations, generated messages describing the location of the mobile for the purpose of informing the system as to the location of the mobile in case of [an] emergency" (Final Rejection, page 3).

This passage from the Office Action is difficult to understand and, thus, somewhat difficult to respond to. In the claimed invention, the mobile station determines whether it is in contact with a base station of a particular localized service area. Thus, in the claimed invention, the mobile station generated message will inform the recipient of the fact that the mobile station is in contact with a base station of a particular localized service area which may be comprised of many base stations. It is unclear how this would be helpful in an emergency situation in which one would want to know

not use the "phone number" of the mobile terminal in their "adjunct scanning units", and therefore could not forward this number to an emergency service center during an emergency (col. 3, lines 1-17, of *Raith*). *Raith*'s solution is to use "its MIN in transmitted RACH messages instead of its valid TMSI or IMSI" when it is recognized that the mobile terminal is making an emergency call, thereby allowing the adjunct scanning stations to "forward this information to emergency service center 8, along with the location information generated by the location processing center 7" (the description of FIG. 4 in general; in particular, line 60 of col. 6 to line 2 of col. 7, *Raith*). It should be noted that the "location processing center 7" which generates this location information is completely separate from the mobile terminal (see FIG. 1 of *Raith*), and operates as part of the network.

the exact *geographical* location of the mobile station, not the mobile station's administrative location within the cellular network (i.e., its present localized service area).

In short, it is difficult to see how "the purpose of informing the system as to the location of the mobile in case of [an] emergency" would motivate one skilled in the art to combine *Buhrmann* and *Raith* to create the claimed invention. The Examiner is asked to either provide a more full explanation or withdraw the rejection.

Second Issue: Even when impermissibly combined, does the combination of *Buhrmann* and *Raith* render the subject matter of any of the claims in the present application obvious under §103?

In the present invention, the mobile station determines whether it is in a part of a localized service area, i.e., whether it is in a picocell, microcell, cell, cell sector, etc., which comprise a particular localized service area. **This is not a geographical location**, but rather a "location" within the system.

Applicant admits that *Buhrmann* is a good description of the prior art in terms of a telecommunications system having location-dependent services. Furthermore, *Raith* does mention a mobile station that determines its geographic location using GPS and forwards that information to an emergency center. However, the combination of these two neither teaches or suggests the invention claimed in the present application.

If the *Buhrmann* system is modified to include the feature of a mobile station generating and sending a message bearing its geographical location to emergency service centers, the resulting combination would not teach or suggest a communication system offering location-dependent services to mobile stations where the mobile stations recognize whether they are in a picocell, microcell, cell, cell sector, or other cellular network division or subdivision, which is part (or all) of a "localized service area". The combination of *Buhrmann* and *Raith* may teach a mobile station that sends a message bearing its geographical location, but another network element would need to maintain a database with records of all geographical locations and their corresponding localized service areas in order for that geographical information to be useful in the sense used in the claims of the present invention.

In short, a mobile station transmitting a message bearing its geographical location is not the same as a mobile station transmitting a message which indicates the localized service area with which it is presently in contact.

In summary, the Examiner has failed to establish a *prima facie* case of obviousness, because the Examiner has not provided an understandable motivation or suggestion for making the combination of *Buhrmann* and *Raith*. Furthermore, even when impermissibly combined, the combination of *Buhrmann* and *Raith* neither teaches nor suggests the invention recited in the claims of the present invention. Withdrawal of the rejection, and the allowance of all claims, is respectfully requested.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By



Teodor J. Holmberg

Reg. No. 50,140

551 Fifth Avenue, Suite 1210

New York, New York 10176

(212) 687-2770

Dated: August 10, 2004

(9) Appendix:

This is a copy of the claims involved in this appeal:

1. A communications system having base stations for providing mobile stations with communications links and at least one localized service area, comprising:
 - a service server which is arranged to maintain information concerning the location of mobile stations in localized service areas and to generate requests for changing the service selection offered to mobile stations in response to receiving, from the mobile stations, mobile station generated messages describing the location of the mobile stations in relation to localized service areas; and
 - means for changing the service selection offered to a mobile station by the communications system in response to an indication of the arrival of the mobile station in said localized service area, which indication is a message generated by said mobile station.
2. The communications system of claim 1, comprising:
 - an application server to provide mobile stations with different services in response to a request generated by the service server for changing the service selection.
3. The communications system of claim 2, wherein said service server is the same as said application server.
4. The communications system of claim 1, wherein it is adapted so as to change a localized service selection offered to a mobile station in response to a notification sent by the mobile station on its arrival in a localized service area.
5. A cellular mobile station having a control block, comprising:
 - memory means adapted so as to store the information required for recognizing a localized service area;

wherein the mobile station is adapted so as to send a notification of its arrival in the localized service area in response to the recognition of the localized service area, said notification being intended as an impulse for changing the service selection offered to the mobile station.

6. The mobile station of claim 5, wherein said memory means is located in a removable memory unit.

7. A method for changing the service selection offered to a mobile station in a communications system that has base stations for providing mobile stations with communications links, comprising the steps of:

receiving from the mobile station a message indicating that the mobile station has detected that it is in the localized service area;
generating information about the arrival of a mobile station in a localized service area;
and
changing the service selection offered to said mobile station by the communications system.

8. The method of claim 7, wherein in response to the information about the arrival of a mobile station in a localized service area a predetermined additional service is offered to the mobile station.

9. The method of claim 8, wherein said additional service involves the sending of announcements to the mobile station.

10. The method of claim 7, wherein in response to the information about the arrival of a mobile station in a localized service area the quantity of services offered to the mobile station by the communications system is reduced.

11. The method of claim 7, further comprising the steps of:

communicating a message indicating the arrival of a mobile station in a localized service area to a service server;
checking what services should be offered to the mobile station in that localized service area;
communicating a request for the services to be offered to an application server providing the services; and
providing, by the application server, a service to the mobile station.

12. The method of claim 11, wherein:

the step of communicating a request to an application server comprises the step of:
communicating the request for the services to be offered to at least two application servers providing services, and
the step of providing, by the application server, a service to the mobile station comprises the step of:
providing, by each application server to which the request for the services to be offered was made, a service to the mobile station.